

**Environmental Protection Indicators for California (EPIC)
DRAFT ISSUE STRUCTURE WITH DEFINITIONS**

ISSUE CATEGORY: PESTICIDES

Pesticides play a unique role in environmental protection. Contradicting the usual approach to environmental protection, pesticides are chemicals that are deliberately released into nature to achieve a specific purpose. When used properly, pesticides protect people and their environment from pests. They can increase the quality and production of agriculture and enhance public sanitation. However, if pesticides are used improperly, they may adversely impact air, water, and food and pose health risks to humans, wildlife and sensitive ecosystems.

ISSUE 1: Air

Pesticide use involves deliberately releasing chemicals into the air to achieve a specific purpose. Hence, pesticide use may adversely impact air quality.

ISSUE 2: Water

Pesticide residues may pose risks to humans and the environment through runoff from treated fields or by leaching into ground water. Historically, investigations into pesticide contamination of water bodies have focused on agricultural activities. In recent years, there is growing evidence that urban pesticide use also has become a source of aquatic pollutants. Urban pesticide applications are typically small, but they involve a wide variety of chemicals and are frequently reapplied. Therefore, cumulative impacts may be significant. Urban-use pesticides used improperly may enter storm drains that drain into urban creeks. When disposed improperly, these pesticides may also travel to wastewater treatment plants. Such facilities usually lack the capability to remove pesticides from water that is treated and released into rivers and streams.

ISSUE 3: Residues in food

If pesticides are used properly and according to label instructions, there should be no illegal residues on harvested produce. Tolerance levels for pesticide residues on produce are intended to protect against adverse impacts on human health. The presence of illegal residues may indicate improper or illegal pesticide use, as well as problems in the State's integrated network of pesticide regulatory programs. Violative residues resulting from illegal pesticide use can also adversely impact the health of wildlife and sensitive ecosystems.

ISSUE 4: Pesticide Use

Pesticides can be applied in a manner that increases the quality and production of agriculture and enhances public sanitation. However, these gains are not without their trade-offs. There are many public concerns about the widespread use of pesticides, and the potential risks they pose to human and environmental health.

ISSUE 5: Integrated Pest Management

Pest management techniques may be utilized a manner that benefits consumers, workers, the environment, and agriculture, without heavy reliance on high-risk chemicals. Integrated Pest Management (IPM) works with nature to create an environment where beneficial life flourishes while pests find it difficult to survive. For example, IPM tactics include hand weeding, trash removal, and trapping insects. Such pest management techniques avoid the hazards created by exposures to harsh pesticides.

ISSUE 6: Human health

Pesticides have been associated with adverse effects on human health. Given the nature of their contact with pesticides, agricultural and pest control workers are most likely to face exposure to pesticides. The public may be exposed to pesticides in water, soil and air due to misuse or movement from application targets. Consumers may face exposure to pesticide residue in food. Unacceptable risks may be avoided when pesticides are used properly, and when pesticide laws and regulations are enforced vigorously and consistently.

ISSUE 7: Ecological health

Pesticides are designed to be toxic to target pests. While their use instructions are intended to prevent adverse impacts on nontarget species, including wildlife, there have been instances when pesticide use has been linked to adverse impacts on birds, bees, and other nontarget species.